

Infield Health Redesign



Infield's mobile app, HealthySteps, delivers medical instructions to hospital patients before and after surgery. The goal is to help patients get better, faster. It was coded and shipped with no input from UI or a design team.

PROJECT PARAMETERS

- Client: Infield Health
- Timeframe: 2.5 weeks
- Goal: Redesign Infield Health's Healthy Steps app

OVERVIEW

- Enroll in the app and conduct task analysis.
- Evaluate current solution based on heuristics, available and user research.
- Determine the most appropriate workflow/user flow. Apply techniques to reduce patient cognitive load and increase trust.
- Sketch and mockup a new visual design

MY ROLE

- Research
- Concept development
- Personas

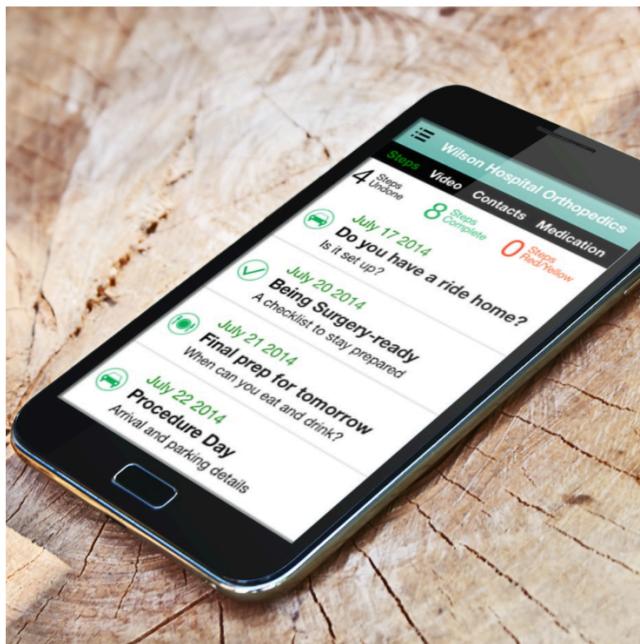
- User Flows
- Sketches
- Prototyping

A FIRST LOOK AT THE APP

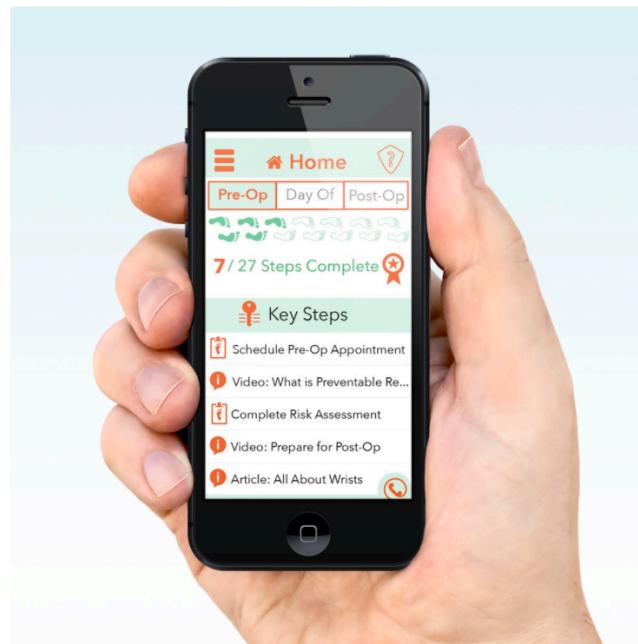
In preparation for our first client meeting, we conducted an initial heuristic analysis of the current version of Healthy Steps and identified some places it could be improved.

HEURISTICS

- **Learnability:** Incorporating a first-time-use guide and "help" page can enable users more easily understand how best to use Healthy Steps.
- **Memorability:** Because Healthy Steps is delivering a wide range of information that can currently move off the screen in the task list, there's an opportunity to make it simpler for users to find information they want to return to.
- **Satisfaction:** A progress indicator could help the patient gain satisfaction as they complete tasks on the list.



The original home screen

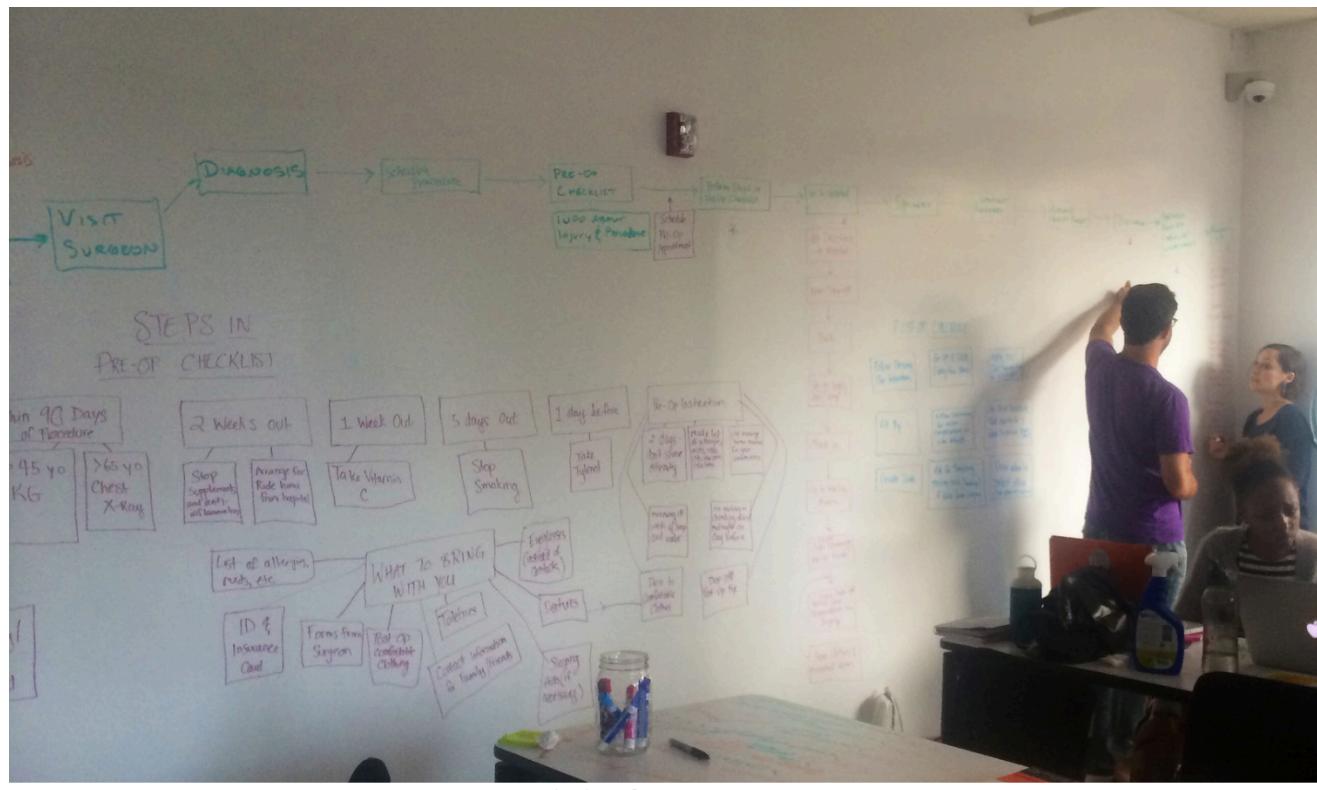


The home screen in our completed design

TASK ANALYSIS

- After our client meeting, it was clear we needed a complete understanding of the full patient journey.

- We researched packets patients receive from doctors and hospitals.
- We chose orthopedic surgery, and looked at time frames and all requirements.
- We paid close attention to writing down every possible situation a patient could experience.
- We separated the pre-op, post-op, and day-of-surgery tasks to get an understanding of where the app could be helpful during each part of the patient journey.



USER RESEARCH

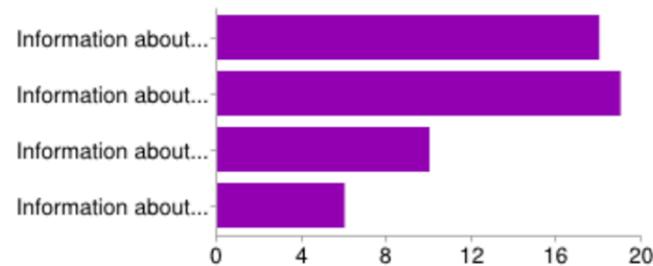
USER SURVEY

- We sent a user survey to respondents who underwent surgical procedures in the past.
- Our questions focused on packets of information patients receive from doctors and hospitals.
- We particularly wanted to gain information on how helpful packets were with specific tasks identified in our task analysis.
- We found that respondents do carefully use the information in the packets, but we could make that info more accessible.

USER INTERVIEWS

- We conducted interviews with both doctors and patients.
- The object with patients was to gather information on what they would find helpful and how they would use a mobile guide.
- With doctors, we wanted to gain an understanding of what should be prioritized.
- We found that risk assessment, medication adherence, and scheduling follow-up appointments are the main tasks we need to emphasize.

When you found out that you needed surgery, which of the following did you receive from your doctor, if any:



Information about your condition or injury	18	86%
Information about your procedure	19	90%
Information about the surgeon	10	48%
Information about the hospital	6	29%

Survey responses regarding content of the packets.

MIND MAP

-
- Using information gathered from the task analysis and user research, we identified all pain points and tasks and parties involved in the surgical process.
 - Brainstorming as a pair we recorded and sorted this information on post-it notes.
 - These were then organized so that we gained a greater understanding of how an app could address each issue



Early Mind Map for Our Design

PERSONAS AND USERFLOWS

PERSONA CONSIDERATIONS

- The sheer amount of tasks and situations Healthy Steps needs to address requires robust personas.
- We need to create personas that cover a wide swath of potential users.
- All possible functions and options should be considered along with how useful they are for each persona.
- A detailed user story should be developed to our user flow can be complete and specific

THE THREE PERSONAS

1. Peggy: A busy, working mother of 3 who broke her wrist. She does not want to spend time thinking about prioritizing and understanding tasks. She has no use for medical jargon
2. Frank: An older man with a blocked artery. He does not want to be a burden to his wife or children, so he wants help remembering all required tasks and knowing what to expect at each point in the patient journey
3. Kelly: A young college student who will act as a caretaker for her grandmother. Her grandmother broke her hip and does not speak English. Kelly will need the information to

be simple so she can translate, and wants a complete understanding of how she can best care for her grandmother.

PAPER PROTOTYPE AND USABILITY TESTING

SKETCHING

- My partner and I identified specific tasks from our user journeys.
- We then conducted five minute "design studio" sessions, where we each spend five minutes sketching solutions, then compare.
- We chose the best aspects from each other's solutions and sketched every screen required for a full prototype.

PROTOTYPING

- For our paper prototype, we sketch all of our main screens, along with every possible overlay for different tasks.
- We chose paper as the main method for our testing so we could quickly iterate on our design.
- When completed we had sketched a total of 54 screens.
- The main screens were pasted onto cardboard to mimic the real app for testing.
- Each screen was photographed and uploaded to PopApp, so we could better understand how the app would work and look directly on the smartphone.

USABILITY TESTING

- For usability testing, we identified specific tasks from each aspect of the patient journey.
- We then approached subjects, and starting from our home screen, instructed them to complete these tasks.
- From these results, we iterated on both the app flow and screen design until the flow was intuitive for our subjects.

PATIENT EXPERIENCE MAP

- For what was viewed as our most valuable deliverable, we created a detailed experience map.



"Design Studio" sketches



Paperscreen uploaded to a PopApp Screen



Usability Testing

- For each stage of the journey we determined
 1. How the app is helpful.
 2. The level of activity the app will undergo.
 3. The specific tasks the user is experiencing.
 4. How the user is feeling, and what they are thinking.
 - From this exercise, we were able to better understand where the opportunities were for Healthy Steps to be most useful.

Healthy Steps Experience Map

Guiding Principles

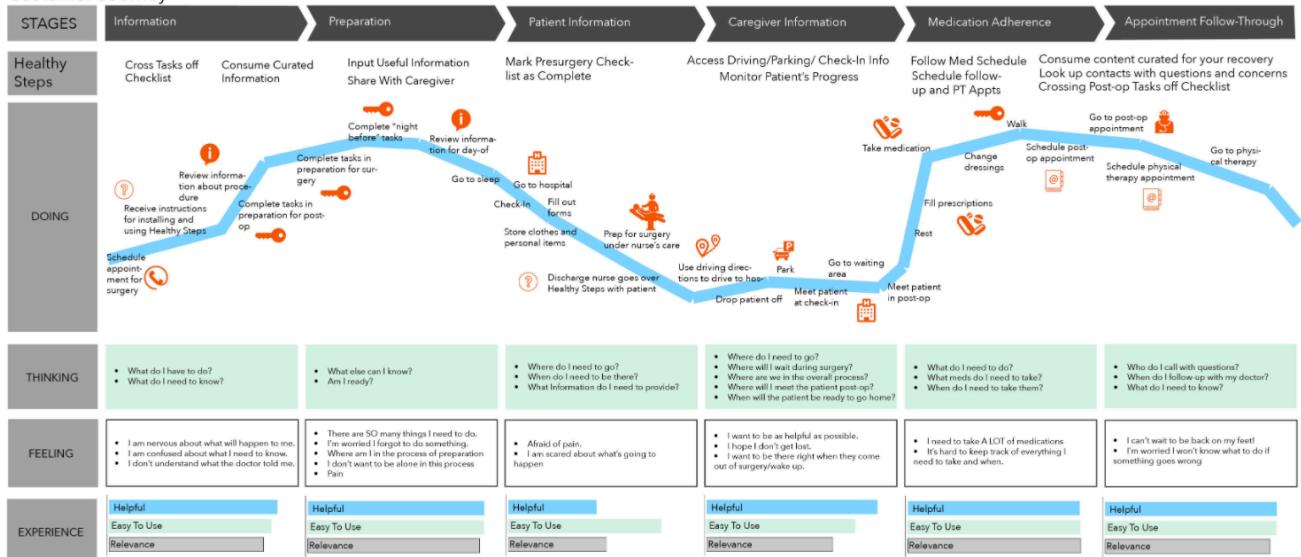
Major causes of preventable readmission

Patients lose motivation - Avoidant Behavior

Little to no habitual behavior in this process = high cognitive load

Building relationships with the hospital will keep patient engaged

Customer Journey



Opportunities

GLOBAL			PRE_OP_DAY_OF_SURGERY		POST_OP
Visualize progress in your current stage STAGES: Global	Organize information and highlight critical info STAGES: Global	Provide information to aid decision making STAGES: Global	Assess personal risk of preventable readmission STAGES: Neo-Op	Allow patient to engage friends/family STAGES: Pre-Op, Day-Of	Rewarding Achievements STAGES: Pre-Op
Prioritize tasks that reduce risk of readmission STAGES: Global	Reduce cognitive load STAGES: Global	Keep patient engaged STAGES: Global	Help patient plan ahead for post-op recovery STAGES: Pre-Op	Providing caregiver information to act on behalf of the patient STAGES: Day-Of	Visualize progress in your current stage STAGES: Pre-Op
					Quickly find out who to contact STAGES: Post-Op

Articles, Tips & Videos

Recommended For Me

- Cold Therapy Speeds Recovery
- All About Wrists
- What is Preventable Readmis...
- Avoid Complications
- A Former Patient's Advice
- Planning Ahead for Faster Re...

For Me

Information About Condition and Procedure

Wrist Pain

When do you need to call your doctor about your wrist pain?

If you are unsure of the cause of your wrist pain, or if you do not know the specific treatment recommendations for your condition, you should seek medical attention. Treatment of these conditions must be directed at the specific cause of your problem. Some signs that you should be seen by a doctor include:

- Inability to carry objects or use the arm
- Injury that causes deformity of the joint
- Wrist pain that occurs at night or while resting
- Wrist pain that persists beyond a few days
- Inability to straighten or flex the joint
- Swelling or significant bruising around the joint or forearm
- Signs of an infection, including fever, redness, warmth
- Any other unusual symptoms

Next Article

Risk Assessment

Age

Height ft in

Weight lb

Smoker Y N

Drinks /wk

Article: All About Wrists

Readmission Risk Assessment

7/27 Steps Complete

Key Steps

- Schedule Pre-Op Appointment
- Video: What is Preventable Re...
- Complete Risk Assessment
- Video: Prepare for Post-Op

Thumbs Up!

You Completed A Key Step

- Schedule Pre-Op Appointment
- Video: What is Preventable Re...
- Complete Risk Assessment
- Video: Prepare for Post-Op

Articles, Tips & Videos

Post-Op Medications

Hospital Information

Caregivers

My Documents

Notes

Settings

Complete

Steps

Current Medica...

ons to Hospital

e of Clothes

e Hospital Map

Post-Op Medications

Breakfast

Lunch

Percocet (5mg)
Scheduled for 08:00AM
Take 1.0

Bedtime

Dinner

RESCHEDULE **TAKEN** **SKIP**

Today's Pills **Medication List** **Schedule**

Medication Schedule with Popup Detail

Post-Op Medications

Breakfast

Aspirin

Percocet

Lunch

Vicodin

Lipitor

Dinner

Xanax

Demerol

Today's Pills **Medication List** **Schedule**

Medication Schedule in List Format

Post-Op Medications

Aspirin	150 mg
Demerol	10 mg
Percocet	5 mg
Vicodin	15 mg
Lipitor	20 mg
Xanax	30 mg

Today's Pills **Medication List** **Schedule**

Complete Medication List